A generalization of the Barabási-Albert random tree*

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Abstract

The Barabśi-Albert preferential attachment model describes the evolution of several real life networks (see [1]). A well-known property of those networks is the power law degree distribution.

In this paper a random graph evolution mechanism is defined which can be considered as a generalization of the Barabási-Albert random tree. The evolution is a combination of the preferential attachment model and the interactions of 2 vertices. Our model is similar to the 3-interaction model studied in [2]. We study the asymptotic behaviour of the degree and the weight of a vertex.

Keywords: Random graph, preferential attachment, scale-free, power law

MSC: 05C80, 60G42

References

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