

Consistency of the maximum likelihood estimator in a dynamic stochastic block model

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Random graphs are a useful tool to model all kind of networks, such as biological, ecological or social networks, and a lot of methods have been developed, including clustering methods to account for different connection behaviors. Here, we consider a dynamic version of the stochastic block model, in which the nodes are partitioned into latent classes and the connection between two nodes is drawn from a Bernoulli distribution depending on the classes of these two nodes. The temporal evolution is modeled through a hidden Markov chain on the nodes memberships. In this talk, we prove the consistency of the maximum likelihood estimators of the connection probabilities and the transition matrix of the latent chain.

Références