Modeling adaptative social behaviour on epidemics with dynamical networks

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Abstract

The aim of the present is to study how to model SIR epidemics with adaptive networks. This networks have been recently introduced in the context of disease propagation on complex networks. These networks include real actions since take in account for the mutual interaction between the network topology and the states of the nodes. Most of the previous works uses static networks which are more easily to study, but in general more unreal. Here, we study the time evolution of the disease and the underlying network topology. In this way we include the coevolution of the disease and the relationship between individuals. In order to obtain qualitative results we apply Monte Carlo simulations to observe network dynamics. Additionally, the proposed dynamical network model uses a parameter p which reflects the probability of rewire due to the infectivity of the disease and related social behaviour.

Key words: Networks dynamics, Epidemic model, Coevolution, Adaptative social behaviour.

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