INFORMATION PROPAGATION MODEL ON MULTILAYER

SCALE-FREE NETWORKS

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ABSTRACT

People usually use multiple social networks simultaneously, and can share the information they learned from one social network to another. In this paper, we study the information spreading on multilayer networks and propose a model that the acceptance of information is not only determined by the information itself (fundamental transmissibility), but also influenced by the state of the individuals. In particular, layer-switching cost is taken into consideration in our model. The numerical results indicate that multilayer networks have the lower threshold and the larger propagation size than the single network. Furthermore, we get the threshold equation from the simulation results and prove that the structure of source layer plays a dominant role in the multilayer system.

KEYWORDS: Information Propagation, Multilayer Networks, Scale-Free, Threshold