

DEGREE DISTRIBUTIONS AND THE CRITICAL SURFACE OF EPIDEMIC SPREADING ON A RANDOM GROWTH NETWORK

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Abstract: A continuous-time Markov chain is presented to describe not only the epidemic spreading taking place on a random growing network but also the network growth in the environment of the epidemic spreading. We investigate how the epidemic spreading on the growing network can affect the topology structure (degree distribution) of the growth network. Moreover, we give the expression of critical surface of the epidemic spreading.