

DYNAMICS OF A LINK-TYPE INDEPENDENT ADAPTIVE EPIDEMIC MODEL

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Abstract. A link-type-independent adaptive network model of *SIS* epidemic propagation is considered. In the model links can be activated or deleted randomly regardless to the type of nodes. A four-variable pairwise ODE approximation is used to describe how the number of quantities such as number of infected nodes evolves in time. In order to investigate bifurcations in the model an invariant manifold is defined. Using the theory of asymptotically autonomous systems, results obtained for the reduced system on the manifold are extended to the full pairwise model and a non-oscillating behaviour is proven.

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