

Abstract Submitted
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Scale-free networks with temporary link deactivation for disease avoidance LEAH SHAW, College of William and Mary, MAXIM SHKARAYEV, Iowa State University, ILKER TUNC, University of Miami — We study epidemic spread on scale-free networks in which nodes can temporarily deactivate their links to infected neighbors and reactivate when their neighbors recover. We find that the topology of the subnetwork consisting of active links is fundamentally different from the original network topology, and we predict the scaling exponent of the active degree distribution. Further, we derive an improved low dimensional system of mean-field equations for dynamics of nodes and links based on the distribution of a node's neighbors conditioned on the total degree.

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