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Effects of active links on epidemic transmission over social networks

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Highlights

- An improved SIRS epidemic model with adaptive infectivity is developed to account for the activation of links in social networks.
- A clear formula of the basic production number is proved to be a sharp threshold that completely determines the global dynamics.
- Adaptive infectivity largely regulates the impacts of network structure on epidemics.
- A generalized theorem is proposed to study the dynamics of epidemic ODE systems with multi-compartments.

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