Accepted Manuscript

Global stability and optimal control of epidemic spreading on multiplex networks with nonlinear mutual interaction

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PII: S0378-4371(18)30143-2
DOI: https://doi.org/10.1016/j.physa.2018.02.056
Reference: PHYSA 19176

To appear in: *Physica A*

Received date : 13 September 2017
Revised date : 30 November 2017

Please cite this article as: N. Jia, L. Ding, Y.-J. Liu, P. Hu, Global stability and optimal control of epidemic spreading on multiplex networks with nonlinear mutual interaction, *Physica A* (2018), https://doi.org/10.1016/j.physa.2018.02.056

This paper has four highlights.

1. Two interacting pathogens spreading on multiplex networks is considered.
2. A novel nonlinear state-dependent infectious rate is proposed to describe the mutual interaction during the propagation of two pathogens.
3. The global stability of equilibrium points for the proposed system is analyzed.
4. An optimal treatment strategy for the proposed system is studied.