Outline

1. The model and its mathematical description

2. Some applications

   (a) **Mesocopic localization**

   (b) Heterogeneous transmission settings

   (c) Context-sensitive behavior

Mesocopic localization

Localization: an epidemic sustains itself via a limited (and localized) number of nodes, traditionnally around hubs or within the inner-most core.

PRL **109**, 128702 (2012)

PHYSICAL REVIEW LETTERS

week ending
21 SEPTEMBER 2012

Localization and Spreading of Diseases in Complex Networks

A. V. Goltsev,[1,2] S. N. Dorogovtsev,[1,2] J. G. Oliveira,[1,3] and J. F. F. Mendes[1]

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nature > scientific reports > articles > article

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Competing activation mechanisms in epidemics on networks

Claudio Castellano & Romualdo Pastor-Satorras

PHYSICAL REVIEW X **7**, 011014 (2017)

Disease Localization in Multilayer Networks

Guilherme Ferraz de Arruda,[1,2] Emanuele Cozzo,[2,3] Tiago P. Peixoto,[4,5] Francisco A. Rodrigues,[1,*] and Yamir Moreno[2,3,5,†]

PHYSICAL REVIEW E **93**, 032314 (2016)

Collective versus hub activation of epidemic phases on networks

Silvio C. Ferreira,[1] Renan S. Sander,[1] and Romualdo Pastor-Satorras[2]

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Network Localization Is Unalterable by Infections in Bursts

Qiang Liu and Piet Van Mieghem