

Non identical coupled reaction-diffusion systems for a geographical model of human behaviors during catastrophic events

Guillaume CANTIN

Normandie Univ, UNIHAVRE, LMAH, FR-CNRS-3335, ISCN, 76600 Le Havre, France
guillaumecantin@mail.com

Abstract

In this poster, we consider the PCR system (Panic-Control-Reflex), which is a geographical model for human behaviors during catastrophic events. Its spatial improvement leads to a system of reaction-diffusion equations, defined on a bounded domain, with Neumann boundary condition. We explore invariant regions and establish sufficient conditions for the solution to converge to its spatial average. We prove that the system cannot exhibit traveling waves. Adopting a splitting numerical scheme, we experiment the coupling of two non identical systems.

Keywords: PCR system, reaction-diffusion, splitting scheme, non identical coupling, panic.
