

COUPLED NETWORKS OF REACTION-DIFFUSION
SYSTEMS FOR A GEOGRAPHICAL MODEL

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Abstract

In this communication, we study the asymptotic behavior of the solution of a coupled network for a reaction-diffusion system, on a bounded domain, with Neumann boundary condition. We prove that the system admits an invariant region under sufficient conditions on the parameters involved in the equations. We demonstrate energy estimates, implement a splitting numerical scheme in order to experiment the convergence of the solution towards its spatial average, and explore the effect of the topology of the subsequent network on the equilibrium states.