

Steady-state patterns of the shadow system with nontrivial basic production terms

KANAKO SUZUKI

Institute for International Advanced Interdisciplinary Research, Tohoku University

`kasuzu-is@m.tains.tohoku.ac.jp`

(Joint work with Izumi Takagi, Mathematical Institute, Tohoku University, `takagi@math.tohoku.ac.jp`)

We consider the shadow system for an activator-inhibitor system, which is obtained by letting the diffusion coefficient of the inhibitor infinite. In one-dimensional shadow system, if both of equations for the activator A and the inhibitor H have basic production terms, the system may have two kinds of spatially inhomogeneous steady states. One is the so-called boundary spikes, another is close to $A \equiv 0$. In this talk, we show the existence of these solutions and study the effect of the basic production terms on the shape of boundary spikes.