

Lotka-Volterra systems - thermodynamics of multi-component models in biology

Takashi Suzuki

I talk on the recent study on multi-component reaction-diffusion systems in theoretical biology. First, I describe several examples provided with thermodynamical structures. They are full system of chemotaxis, Gierer-Meinhardt, FitzHugh-Nagumo, cell polarization, prey-predator, cross-diffusion, and virus dynamics. Then I turn to skew-symmetric Lotka-Volterra system. By the method of weak scaling limit, I show the global-in-time compactness of the orbit when the space dimension is two.