CMMA Monthly Seminar
第5回 CMMA 月例セミナー

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Abstract：

Self-driven motion is observed in several fields, e.g., biology, chemistry, and nonlinear physics. Organisms move spontaneously to aggregate and form self-organized structures. As a spatiotemporal collective motion, congestion flow is observed in a system with animal and inanimal organisms. For example, camphor boats constitute a system for changing the number of particles and with simple interaction and generate congestion flow as reported by Suematsu et al in 2010. The mechanism of the congestion dynamics of camphor boats has been investigated theoretically. As stated in our previous works, a traveling wave solution in a model with an inhomogeneity plays an important role.

Recently it was reported that traveling wave solutions with a pulse shape, simply called traveling pulses, could generate congestion flow in a reaction-diffusion system with excitability. It is well-known that a traveling pulse is formed spontaneously in an excitable system like the FitzHugh-Nagumo model. This fact seems to imply that the same mechanism as in a system with camphor boats works in the congestion flow of an excitable system. However, it is not true because the reaction-diffusion system has no inhomogeneity. In this talk, we focus on studying the traveling pulse and consider what is different between the congestion flow in the model of camphor boats and the excitable system.

"Congestion flow of pulses in an excitable reaction-diffusion system"

※ 講演は日本語で行います。 Japanese will be used in the lecture.

日時：2015 年 5 月 25 日（月） 17:00-18:00
場所：明治大学 中野キャンパス高層棟 6 階 研究セミナー室 3