

第18回 非線形科学セミナー

日時：2009年 7月22日（水） 14時30分より

場所：理学部2号館403号室

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題目

反応拡散系の変形可能な自己推進粒子のダイナミクス

概要：

A theory of self-propelled particles is developed in two dimensions assuming that the particles can be deformed from a circular shape when the propagating velocity is increased. A coupled set of equations in terms of the velocity and a tensor variable to represent the deformation is introduced to show that there is a bifurcation from a straight motion to a circular motion of a single particle. Dynamics of assembly of the particles is studied numerically where there is a global interaction such that the particles tend to cause an orientational order.

Reference

T. Ohta and T. Ohkuma, Phys. Rev. Lett. 102, 154101(1-4) (2009).