

MIMS現象数理カフェセミナー

日時：2020年10月7日(水) (13:30 - 14:10)

場所：今年度はZoomでのリモート開催となります

Efficient foraging of Ant Colony induced by individual behavior fluctuations

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Abstract : Well-organized collective behaviors of living matters are observed in many species and multiple spatiotemporal scales. In this talk, I introduce my theoretical studies on collective behaviors in living matters and our study on the mass foraging of ants. We theoretically studied the mass foraging with chemical pheromone, which enables ants to forage much feed efficiently, using numerical simulations with a multi-agent model. We especially focus on the relation between foraging efficiency and individual fluctuations. The study showed that the appropriate distribution of fluctuation in individual behavior exists to maximize efficiency while depending on the feeding environments. The result suggests that “task allocation” based on the fluctuation is important in an ant colony.



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