

NTU Mathematics Colloquium

演講者：King-Yeung Lam (Department of Mathematics, The Ohio State University)

講題：A Hamilton-Jacobi approach for nonlocal competition models of many species

時間：2023年11月27日 (星期一) 14:00 - 15:00

地點：臺灣大學天數館 202 室

摘要：The evolution of dispersal is a classical problem in evolutionary biology. The main question is to define the fittest dispersal rate for a population in a bounded domain. From the point of view of adaptive evolution, Perthame and Souganidis formulated a nonlocal competition model, in which the population is structured by space and a phenotypic trait variable, with the trait acting directly on the dispersal rate. For the small mutation limit, it was shown that the equilibrium population concentrates in the trait variable associated with the lowest dispersal rate, while remaining regular in the spatial variables. In this talk, we discuss the time-dependent solutions which exhibit moving Dirac concentrations in a fast timescale. We will derive, using the notion of Floquet bundles of parabolic equations, the constrained Hamilton-Jacobi equation describing the trajectory of the moving Dirac concentration.

相關事宜請與顏湘伶小姐聯絡 [Tel:\(02\)3366-2822](tel:(02)3366-2822) 歡迎上網查詢 網址：<http://www.math.ntu.edu.tw>



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