

Colloquium

Asymptotics of stationary solution for a cross-diffusion mass-conserved system

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地 點：應用數學系多媒體教室（理 408 室）

摘 要：

We study stationary solutions for a 1-D cross-diffusion system

$$u_t = d \Delta u - g(u+v) + v,$$

$$v_t = \Delta v + g(u+v) - v,$$

where $g(w)=w/(w+1)^2$. In particular, we are interested in asymptotic behaviours of the solution for the system as $d \rightarrow 0$. We show that the solution with a minimizing energy exhibits the phenomena of mass concentration. Using a blow-up technique, we also find the limiting profile for the solution. This is a joint work with Jann-Long Chern and Yoshihisa Morita.