## Reaction-diffusion system approximation to the cross-diffusion competition system

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## Abstract

We study the stationary problem of a reaction-diffusion system with a small parameter  $\varepsilon$ , which approximates the cross-diffusion competition system proposed to study spatial segregation problem between two competing species. The convergence between two systems as  $\varepsilon \downarrow 0$  is discussed from analytical and complementarily numerical point of views.

1