

Singular limits and asymptotic behaviour for a m-component competition-diffusion system

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Abstract. Reaction-diffusion systems with a Lotka-Volterra-type reaction term, also known as competition-diffusion systems, have been used to investigate the dynamics of the competition among m ecological species for a limited resource necessary to their survival and growth. We will show that when the environment is very favourable to the invading species the invasion will always be successful and the native species will be driven to extinction. On the other hand, if the environment is not favourable enough, the invasion will always fail.