

# ASYMPTOTIC BEHAVIOR OF SOLUTIONS OF REACTION-DIFFUSION SYSTEMS

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The existence and asymptotic behavior of solutions for a class of nonlinear reaction-diffusion equations with time delays is discussed using the method of upper and lower solutions. The existence problem is devoted to systems with nonquasimonotone reaction functions, including nonlinear boundary conditions with delays, while the asymptotic behavior of solutions is for systems with mixed quasimonotone reaction functions. Special attention is given to the convergence of time dependent solutions to uniform steady state solutions for systems with homogeneous Neumann boundary conditions. Applications are given to several model problems arising from ecology and engineering.