

Population Dynamics in Presence of State-Dependent External Perturbations

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We study the influence of a class of state-dependent small external perturbations on the population dynamics of a system of competing populations. The class of the external perturbations is modelled by multiplicative Gaussian white noise. We discuss the stationary probability density functions for the studied cases of population dynamics. In addition we discuss the possibilities for perturbation-induced transitions between different probability density functions.