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Invariant Measure for the Stochastic Models of the Population Dynamics with Spatial Diffusion

We consider a stochastic equations system modeling population dynamics of competition and prey-predator type with diffusion in a territorial domain. We prove the existence of an invariant measure for the competition and the prey-predator stochastic models. To demonstrate these results, we apply the Krylov-Bogoliubov's theorem, who requires an estimation of the solution of the stochastic equations system.

To obtain the appropriate estimates we apply the Itô's formula in infinite dimension space to an adequate function.

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