

POPULATION MODEL WITH CROSS-DIFFUSION WITH DOUBLE NONLINEARITY

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ABSTRACT

Considering the parabolic system of the two quasi linear equations, of the reaction-diffusion problem, of Kolmogorov-Fisher type was for biological population. The two-dimensional case and localization of wave solutions of the systems of reaction – diffusion, with double nonlinearity was done. Cross-diffusion means that, spatial movement of a single object, which is described in one of the variables, is due to the diffusion of another object, described by another variable. We considered a spatial analogue of Volterra-Lotka competition system, with nonlinear power dependence of the diffusion coefficient on the density of the population.

KEYWORDS: Reaction-Diffusion, Diffusion with Double Nonlinearity, Spatial Move & Density of the Population