

论文

EXTINCTION AND WAVEFRONT IN AN AGE-STRUCTURED POPULATION MODEL ON INFINITE PATCHES WITH DISTRIBUTED MATURATION DELAY

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收稿日期 修回日期 网络版发布日期 接受日期

摘要 In this paper, we derive a lattice model for a single species on infinite

patches of one-dimensional space with that the maturation could occur at any age. The

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density function on which ecological assumptions are made. The following results are

obtained: the existence and isotropy of the unique nonnegative solution for initial

value problem, the extinction of the species provided with the non-existence of

positive equilibria, and the existence of wavefronts with the wave speed

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关键词 [Age-structure, distributed mature delay,](#)

分类号

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Abstract In this paper, we derive a lattice model for a single species on infinite patches of one-dimensional space with that the maturation could occur at any age. The formulation involves a distribution of possible ages of maturation and a probability density function on which ecological assumptions are made. The following results are obtained: the existence and isotropy of the unique nonnegative solution for initial value problem, the extinction of the species provided with the non-existence of positive equilibria, and the existence of wavefronts with the wave speed $c > c_*$.

Key words [Age-structure](#) [distributed mature delay](#) [initial value problem](#) [extinction](#) [wavefront](#)

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