

## 论文

### 一类具有功能性反应的中立型捕-食系统全局正周期解的存在性

陈凤德, 陈晓星, 林发兴, 黄春潮

福州大学数学与计算机科学学院 福建 350002

#### 摘要:

首次研究一类具有Holling II型功能性反应中立型捕食者-食饵系统(即Rosenzweig-MacArthur模型),通过发展一些分析技巧,利用重合度理论中的延拓定理讨论了其全局正周期解的存在性,得到了保证周期解存在的充分条件.最后举例说明该文定理条件是可行的.

关键词: 捕食者-食饵系统;Holling II类功能性反应;中立型;重合度;周期解

分类号:

34K20; 34C25; 92D25

### Global Existence of Postive Periodic Solution of a Neutral Type Predator-prey System with Holling Type II Functional Response

CHEN Feng-De, CHEN Xiao-Xing, LIN Fa-Xing, HUANG Chun-Chao

#### Abstract:

The authors first establish the neutral type predator-prey system with Holling type II functional response, then by developing some new technique of analysis and using a continuation theorem based on coincidence degree theory, the authors study the global existence of positive periodic solution for the above model. A set of easily verifiable sufficient conditions is obtained. Example shows that our main results are feasible.

Keywords: Holling II type functional response Periodic solution; Coincidence degree Neutral

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通讯作者:

作者简介:

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