

Predator-prey and competitive models with seasonality: an overview of recent results

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Talk Abstract

In this talk we will consider predator-prey and competition models. We will give an overview of recent results in the case when seasonality is considered.

In what concerns predator-prey models we prove persistence results and also coexistence ones both with a logistic type growth for the prey or, in the case of two species, considering an Allee effect (both the cases of weak and strong Allee effects). These results were obtained for a general class of functional responses.

In the case of competition models, we analyse in detail the case of a two-species competition model in which competition can be quite general. We give conditions for the extinction of one or both species and for coexistence.

The results obtained with topological methods are described in the papers [1, 2, 3].

Keywords: predator prey, competition, persistence, extinction, coexistence.

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