

Dynamics of Leslie-Gower model with simplified Holling type IV functional response

ABSTRACT

In this paper a three-species of Leslie-Gower predator-prey food chain model with Holling type IV functional response is proposed. The dissipativeness of the solution of the model is discussed. Local and global stability analyses of the system are carried out. The dynamics of the predator-prey food chain model with simplified Holling type IV functional response is investigated theoretically and numerically.

Keyword: Bifurcation; Holling type IV; Leslie-Gower; Periodic; Predator-prey