Asymptotic behavior of a three-species food chain model with time-varying delays

Yuxiao Zhao¹, Linshan Wang², and Yangfan Wang¹

March 13, 2021

Abstract

In this paper, a stochastic three-species food chain model with time-varying delays is focussed. The existence and the asymptotic behavior of global positive solutions to the model are discussed, and the sufficient conditions for the 1th moment practical exponential stability and the extinction of the model are given by using the Razumikhin technique and Lyapunov method.

Hosted file

wileyNJD-Doc.pdf available at https://authorea.com/users/401386/articles/513483-asymptotic-behavior-of-a-three-species-food-chain-model-with-time-varying-delays

¹Ocean University of China

²Department of Mathematics, Ocean University of China, Qingdao, Shandong 266071, PR China