

Abstract

One of the models that tries to describe how animals learn to regulate their behavior under time-based reinforcement schedules is the ‘Learning-to-Time’ (LeT) model. In the LeT model, learning consists of strengthening and weakening connections between behavioral states and the operant response. The present study analyses the asymptotic behavior, the existence and the stability of periodic orbits for the system that represents those associative links, with the form $\dot{W} = A(t)W + f(t)$. In this thesis it is shown that the system has a stable periodic orbit. The result is greatly based on the Floquet theory, that plays a relevant role in the analysis of linear time-periodic systems. Since the basic environment of temporal regulation is the Fixed Interval schedule of reinforcement, this is the task taken into account in this study.