Rotation Number and its Properties for Iterated Function and Non-Autonomous Systems

Mehdi Fatehi Nia;

Department of Mathematics, Yazd University, Yazd, Iran

Abstract

The main purpose of this paper is to introduce the rotation number for non-autonomous and iterated function systems. First, we define iterated function systems and the lift of these types of systems on the unit circle. In the following, we define the rotation number and investigate the conditions of existence and uniqueness of this number for our systems. Then, the notions rotational entropy and rotational shadowing have been considered and some basic properties of these notions in the iterated function and non-autonomous systems have been investigated.

fatehiniam@yazd.ac.ir