

SOME NOTES ON THE TOPOLOGICAL PRESSURE OF NON-AUTONOMOUS SYSTEMS

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ABSTRACT. The purpose of this note is to study the equi-continuous non-autonomous dynamical systems. We prove that the topological pressure of the system coincides with the topological pressure restricted on its non-wandering set. To prove this result, due to the lack of an appropriate variational principle for non-autonomous systems, we need to overcome some challenges. We also consider the weakly contractive iterated function systems (IFS), and find that the invariant set of the IFS plays a similar role as the non-wandering set of non-autonomous system.

1. Introduction

Topological pressure, as an extension of topological entropy, has attracted lots of attention in the study of dynamical systems, such as tail pressure, pressure dimension, pressure computation, etc [1], [3], [13]. However, there is a little study focusing on the non-autonomous systems.

Kolyada and Snoha [8] firstly considered the topological entropy of non-autonomous dynamical systems, which was given by a sequence of continuous self-maps on a non-empty compact topological space. Throughout this paper, we always assume that X is a non-empty compact space, and $f_{1,\infty} = \{f_i\}_{i=1}^\infty$ is a sequence of continuous self-maps of X . For any positive integers i and j , we set

2020 *Mathematics Subject Classification.* Primary 37B55, 37B40; Secondary 28A80.

Key words and phrases. Non-autonomous dynamical systems; non-wandering set; topological entropy; topological pressure; equi-continuous system.

The work was supported by grants from NSFC (No. 11571122) and NSF of Guangdong (No. 2022A1515011124).