

# Contents

<b>Notations</b>	<b>1</b>
<b>1 Introduction</b>	<b>2</b>
1.1 Historical background . . . . .	2
1.2 Preliminaries . . . . .	8
1.3 Overview of the work done in the thesis . . . . .	14
<b>2 Expansiveness in Nonautonomous Discrete Dynamical Systems</b>	<b>18</b>
2.1 Expansiveness in Nonautonomous Discrete Dynamical Systems . . . . .	18
2.2 Invertible Nonautonomous Discrete Dynamical Systems and Expansiveness . . . . .	28
2.3 Generator and Weak Generator in Nonautonomous Discrete Dynamical Systems . . . . .	37
<b>3 Shadowing Property and Topological Stability in Nonautonomous Discrete Dynamical Systems</b>	<b>42</b>
3.1 Shadowing in Nonautonomous Discrete Dynamical Systems . . . . .	43
3.2 Shadowing Property for an Invertible Nonautonomous Discrete Dynamical System . . . . .	52
3.3 Topological stability in Nonautonomous Discrete Dynamical Systems . . . . .	56
<b>4 Nonwandering set in Nonautonomous Discrete Dynamical</b>	

<b>Systems</b>	<b>62</b>
4.1 Properties of Nonwandering set . . . . .	62
4.2 Transitivity in Nonautonomous Discrete Dynamical Systems . . . . .	66
4.3 Limit Sets and Nonwandering Set . . . . .	68
<b>5 Chain Recurrent Sets in Nonautonomous Discrete Dynamical Systems</b>	<b>72</b>
5.1 Properties of Chain Recurrent Sets in Nonautonomous Discrete Dynamical Systems . . . . .	72
5.2 Chain Recurrence and Shadowing Property . . . . .	79
5.3 Weak Isolated set for an Invertible Nonautonomous Discrete Dynamical Systems . . . . .	82
<b>6 Spectral Decomposition Theorem in Equicontinuous Nonautonomous Discrete Dynamical Systems</b>	<b>85</b>
6.1 Weak Chain Recurrence . . . . .	85
6.2 Weak Pseudo Orbit Extending Property . . . . .	90
6.3 Spectral Decomposition Theorem in Equicontinuous Nonautonomous Discrete Dynamical Systems . . . . .	97
6.4 Scope of Further Research . . . . .	101
<b>List of Publications</b> . . . . .	<b>i</b>
<b>References</b> . . . . .	<b>ii</b>