NOTATIONS

(X, d)	a metric space X with metric d
$X - A$	complement of a subset A in space X
$diam(A)$	diameter of a subset A in space X
$\overline{B}$	closure of a subset B in space X
$\mathbb{Z}$	set of all integers
$\mathbb{R}$	set of all real numbers
$F = \{f_n\}_{n=0}^{\infty}$	a time varying map/homeomorphism
$F^{-1} = \{f_n^{-1}\}_{n=0}^{\infty}$	inverse of time varying homeomorphism $F = \{f_n\}_{n=0}^{\infty}$
F_n	$= \begin{cases} f_n \circ f_{n-1} \circ \cdots \circ f_1 \circ f_0, & for\ n \geq 0 \\ f_{-n}^{-1} \circ f_{-(n-1)}^{-1} \circ \cdots \circ f_1^{-1} \circ f_0^{-1} & for\ n \leq -1. \end{cases}$
F^k	k^{th} iterate of a time varying map/homeomorphism F
$F_{[i,j]}$	$= \begin{cases} f_j \circ f_{j-1} \circ \cdots \circ f_{i+1} \circ f_i; & 0 \leq i \leq j \\ the\ identity\ map\ on\ X; & i > j. \end{cases}$
$F_{[i,j]}^{-1}$	$= \begin{cases} f_j^{-1} \circ f_{j-1}^{-1} \circ \cdots \circ f_{i+1}^{-1} \circ f_i^{-1}; & 0 \leq i \leq j \\ the\ identity\ map\ on\ X; & i > j. \end{cases}$
$Fix(F)$	set of all fixed points of F
$N_d(z, \delta)$	denotes open ball centred at z of radius δ under metric d
$Per(F)$	set of all periodic points of F
$\mathcal{R}(F)$	the set of all recurrent points of F
$U_\delta(x)$	open ball centered at x with radius δ
$\Omega(F)$	set of all nonwandering points of F
$\omega(x)$	ω-limit set of point x
$\alpha(x)$	α-limit set of point x
$CR(F)$	set of all chain recurrent points of F
$WCR(F)$	set of all weak chain recurrent points of F