order preserving mapping

For each point p of a continuum X equipped with an arc-structure $A : X \times X \to C(X)$ we define a partial order $\leq_p$ by letting $x \leq_p y$ whenever $A(p, x) \subset A(p, y)$. Let X and Y be continua with fixed arc-structures A and B, respectively. We say that a surjective mapping $f : X \to Y$ is a *$\leq_p$-mapping* provided that $x \leq_p y$ in X implies that $f(x) \leq_{f(p)} f(y)$ in Y. If, in addition, $Y \subset X$, $B = A|(Y \times Y)$, and f is a retraction, then f is called a *$\leq_p$-retraction* (or *$\leq_p$-preserving retraction*). The concept of a *$<_p$-mapping* is defined in a similar manner (with $f(x) \neq f(y)$ implied by $x \neq y$). For *order preserving mappings* see e.g. [Fugate et al. 1981, I.7, p. 553].

ordinary point

Point of order 2 is called *ordinary point* of X; the set of all ordinary points of X is denoted by $O(X)$.

periodic point of

Let a continuum X and a mapping $f : X \to X$ be given. For each natural number n denote by f^n the n-th iteration of f. A point $p \in X$ is called a *periodic point of* f provided that there is $n \in \mathbb{N}$ such that $f^n(p) = p$ The set of periodic points of a mapping $f : X \to X$ are denoted by $P(f)$.

periodic-recurrent property

The set of periodic points and of recurrent points of a mapping $f : X \to X$ are denoted by $P(f)$ and $R(f)$ respectively. Clearly $P(f) \subset R(f)$. A continuum X is said to have the *periodic-recurrent property* (shortly *PR-property*) provided that for every mapping $f : X \to X$ the equality $\operatorname{cl} P(f) = \operatorname{cl} R(f)$ holds.

pointwise self-homeomorphic

A topological space X is called *pointwise self-homeomorphic at a point $x \in X$* if for any neighborhood U of x there is a set V such that $x \in V \subseteq U$ and V is homeomorphic to X. The space X is called *pointwise self-homeomorphic* if it is pointwise self-homeomorphic at each of its points.

pseudo-arc

A *pseudo-arc* is the only (up to homeomorphism) hereditarily indecomposable arc-like continuum.