## contractible

A continuum $X$ is said to be *contractible* provided there is a homotopy $h : X \times [0,1] \to X$ such that for some point $p \in X$ we have $h(x,0) = x$ and $h(x,1) = p$ for each $x \in X$ (see e.g. [Nadler 1978, (16.2), p. 532]).

## curve

A *curve* is any one-dimensional continuum.

## cut point

Let $S, T)$ be a connected topological space, and let $p \in S$. If $S \setminus \{p\}$ is connected, then $p$ is called a *non-cut point of* $S$. If $S \setminus \{p\}$ is not connected, then $p$ is called a *cut point of* $S$.

## $C^*$-smooth

Let $X$ be a continuum. Define $C^* : C(X) \to C(C(X))$ by $C^*(A) = C(A)$. It is known that for any continuum $X$ the function $C^*$ is upper semi-continuous, [Nadler 1978, Theorem 15.2, p. 514], and it is continuous on a dense $G_\delta$ subset of $C(X)$, [Nadler 1978, Corollary 15.3, p. 515]. A continuum $X$ is said to be *$C^*$-smooth at $A \in C(X)$* provided that the function $C^*$ is continuous at $A$. A continuum $X$ is said to be *$C^*$-smooth* provided that the function $C^*$ is continuous on $C(X)$, i.e., at each $A \in C(X)$ (see [Nadler 1978, Definition 5.15, p. 517]).

## cyclic element

Let a continuum $X$ be locally connected and let $p \in X$. By a *cyclic element* of $X$ containing $p$ we mean either the singleton $\{p\}$ if $p$ is a cut point or an end point of $X$, or the set consisting of $p$ and of all points $x \in X$ such that no point of $X$ cuts $X$ between $p$ and $x$, otherwise (see e.g. [Whyburn 1942, Chapter 4, §2, p. 66]).

## decomposable

a continuum $X$ is said to be *decomposable* provided that $X$ can be written as the union of two proper subcontinua.