induced mapping

Let $f : X \to Y$ be a mapping between continua. Then the *induced mapping* $C(f) : C(X) \to C(Y)$ is defined by $C(f)(A) = f(A)$, where A in the left member of the equality means an element of $C(X)$, while in the right one it is understood as a subcontinuum of X (see [64, (0.49), p. 23]).

inverse limit

The reader can find necessary information on the inverse limits of inverse sequences e.g. in Section 2 of the second chapter of [65], as well as in [55].

irreducible

Let X be a continuum and $A \subset X$. Then, X is said to be *irreducible about* A provided no proper subcontinuum of X contains A. a continuum X is said to be *irreducible* provided that X is irreducible about $\{p, q\}$ for some $p, q \in X$.

light

A mapping is *light* if each point inverse is totally disconnected.

like

If X is a metric space, a mapping f from X to a space Y is an ε*-map* if, for each point y of Y, $diam f^{-1}(y)) \leq \varepsilon$. If C is a collection of continua, a continuum M is C*-like* if, for every positive number ε, there exists an ε-map of M onto an element of C. In particular, a continuum is *tree-like* if, for some collection C of trees, M is C-like.

A concept of a tree-like continuum can be defined in several (equivalent) ways. One of them is the following. A continuum X is said to be *tree-like* provided that for each $\varepsilon > 0$ there is a tree T and a surjective mapping $f : X \to T$ such that f is an ε-mapping (i.e., $diam^{-1}(y) < \varepsilon$ for each $y \in T$). Let us mention that a continuum X is tree-like if and only if it is the inverse limit of an inverse sequence of trees with surjective bonding mappings. Compare e.g. [65, p. 24].

Using a concept of a nerve of a covering, one can reformulate the above definition saying that a continuum X is be tree-like provided that for each $\varepsilon > 0$ there is an ε-covering of X whose nerve is a tree.

Finally, the original definition using tree-chains can be found e.g. in Bing's paper [4, p. 653].