connected im kleinen

A space is *connected im kleinen* if it is aposyndetic at each point with respect to each closed point set not containing that point.

continuous selection of

Let a continuum X, a compact space Y and a function $F : X \to 2^Y$ be given. A function $f : X \to Y$ is called a *continuous selection of* F provided that it is continuous and $f(x) \in F(x)$ for each $x \in X$.

converges homeomorphically to the continuum

The statement that the sequence $M_1, M_2, \cdots$ *converges homeomorphically to the continuum* M means there exists a sequence $h_1, h_2, \cdots$ of homeomorphisms such that, for each positive integer i, h_i is a homeomorphism from M_i onto M and for each positive number ε there exists a positive integer N such that if $j > N$ then, for all x, $\mathrm{dist}(h_j(x), x) < \varepsilon$.

converge 0-regularly

A sequence of sets $\{A_n\}$ contained in a metric space X with a metric d is said to *converge* 0*-regularly* to its limit $A = \mathrm{Lim}\, A_n$ (see hyperspace) provided that for each $\varepsilon > 0$ there is a $\delta > 0$ and there is an index $n_0 \in \mathbb{N}$ such that if $n > n_0$ then for every two points $p, q \in A_n$ with $d(p, q) < \delta$ there is a connected set $C_n \subset A_n$ satisfying conditions $p, q \in C_n$ and $diam_n < \varepsilon$ (see [78, Chapter 9, §3, p. 174]).

convex

Given a continuum X with an arc-structure A, a subset Z of X is said to be *convex* provided that for each pair of points x and y of Z the arc $A(x, y)$ is a subset of Z. If Z is a convex subcontinuum of X, then $A|Z \times Z$ is an arc-structure on Z. We define X to be *locally convex at a point* $p \in X$ provided that for each open set U containing p there is a convex set Z such that $p \in \mathrm{int}\, Z \subset \mathrm{cl}\, Z \subset U$ (see [42, I.2, p. 548-549]).

continuum

A *continuum* is a nonempty, compact, connected metric space.