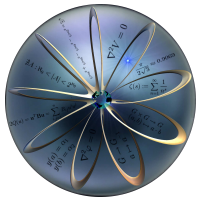

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loop space

Canonical name	LoopSpace
Date of creation	2013-03-22 12:15:26
Last modified on	2013-03-22 12:15:26
Owner	mathcam (2727)
Last modified by	mathcam (2727)
Numerical id	8
Author	mathcam (2727)
Entry type	Definition
Classification	msc 54-00
Related topic	Suspension
Related topic	EilenbergMacLaneSpace

Let X be a topological space, and give the space of continuous maps $[0,1] \to X$, the compact-open topology, that is a subbasis for the topology is the collection of sets $\{\sigma : \sigma(K) \subset U\}$ for $K \subset [0,1]$ compact and $U \subset X$ open.

Then for $x \in X$, let $\Omega_x X$ be the subset of loops based at x (that is σ such that $\sigma(0) = \sigma(1) = x$), with the relative topology.

$\Omega_x X$ is called the loop space of X at x.