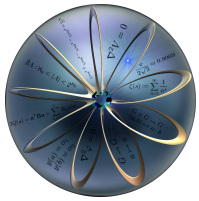

planetmath.org

Math for the people, by the people.

t-cat

Canonical name	Tcat
Date of creation	2013-03-22 15:54:54
Last modified on	2013-03-22 15:54:54
Owner	juanman (12619)
Last modified by	juanman (12619)
Numerical id	7
Author	juanman (12619)
Entry type	Definition
Classification	msc 55M30
Related topic	RoundComplexity

The **t-cat** of a topological space X is the minimal number of open sets that cover X such that each open set in the cover has the homotopy type of the unit circle S^1. This means that for each open set U, the inclusion $U \overset{i}{\hookrightarrow} X$ is homotopic to some factorization $U \overset{a}{\to} S^1 \overset{b}{\to} X$, i.e.

$$i \simeq b \circ a.$$

When X is manifold, this is related to the round complexity of X.

References

[1] D. Siersma, G. Khimshiasvili, *On minimal round functions*, Preprint 1118, Department of Mathematics, Utrecht University, 1999, pp. 18.