

Cones over locally connected curves

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Let X be a topological space. The *cone* of X is the quotient space defined by

$$\text{Cone}(X) = X \times \mathbb{I} / (X \times \{1\}).$$

It is well known that cones of non-homeomorphic spaces can be homeomorphic, e.g. $\text{Cone}(S^1)$ and $\text{Cone}(\mathbb{I})$.

In my talk I will present the following theorem:

Theorem 1 *Let us assume that X and Y are locally connected curves not being a local dendrite. Then $\text{Cone}(X)$ and $\text{Cone}(Y)$ are homeomorphic iff X is homeomorphic to Y .*