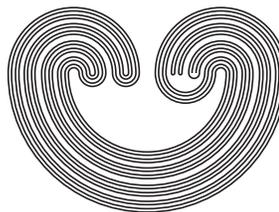


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## SUSPENSIONS OF LOCALLY CONNECTED CURVES: HOMOGENEITY DEGREE AND UNIQUENESS

by

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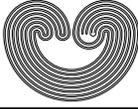
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## SUSPENSIONS OF LOCALLY CONNECTED CURVES: HOMOGENEITY DEGREE AND UNIQUENESS

DARIA MICHALIK

**ABSTRACT.** The homogeneity degree of a space  $X$  is the number of orbits for the action of the group of homeomorphisms of  $X$  onto itself. We determine the homogeneity degree of the suspension over a locally connected curve  $X$  not being a local dendrite in terms of that of  $X$ . Using the main result of Alicia Santiago-Santos's *Degree of homogeneity on suspensions* (Topology Appl. **158** (2011), no. 16, 2125–2139) gives us a formula for the homogeneity degree of the suspension over any locally connected curve  $X$ .

We also prove that the suspensions over locally connected curves not being local dendrites  $X$  and  $Y$  are homeomorphic if and only if  $X$  and  $Y$  are homeomorphic.

### 1. INTRODUCTION

A *continuum* is a nondegenerate compact connected metric space. A *curve* is a one-dimensional continuum. An *arc* is a continuum homeomorphic to the interval  $\mathbb{I} = [0, 1]$ . A *simple closed curve* is a continuum homeomorphic to the unit circle  $S^1$ .

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

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

and the *suspension* of  $X$  is the quotient space defined by

$$\text{Sus}(X) = X \times \mathbb{I} / \{X \times \{0\}, X \times \{1\}\}.$$

Let  $\mathcal{H}(X)$  denote the group of homeomorphisms of  $X$  onto itself. An *orbit* of  $X$  is an orbit under the action of  $\mathcal{H}(X)$ . Given a point  $x \in X$ ,

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*Key words and phrases.* homogeneity degree, local dendrite, locally connected curve, suspension.

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