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EMBEDDINGS OF MAPPINGS VIA PRODUCTS AND UNIVERSAL MAPPINGS

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Abstract. In [16] S. D. Iliadis introduced the notion of a universal mapping for a given class of continuous mappings and proved in a unified way the existence of universal elements for many classes of mappings. In this paper, we construct universal mappings for several classes of continuous mappings using embedding theorems for mappings and a topological method related to [4].

1. Introduction

A topological space T is *universal* in a class $\mathbb{P}$ of topological spaces if T belongs to $\mathbb{P}$ and every space that belongs to $\mathbb{P}$ is embeddable in T, i.e. T contains a homeomorphic copy of every element of the class $\mathbb{P}$. The question whether there are universal spaces in a given class of spaces is called the *universality problem* for that class.

Universality problems appeared in topology in its early development and theorems which assert the existence of universal objects are useful because they enable us to reduce the study of a class of spaces to the study of subspaces of one fixed space. In the construction of universal spaces embeddings of spaces in products usually play an important role. The "diagonal theorem" is a main method for constructing universal spaces.

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