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by

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SOME RESULTS ON THE REPRESENTATION SPACE AND STRONG TRIODS

ENRIQUE CASTAÑEDA-ALVARADO, NORBERTO ORDOÑEZ, AND MARCO A. RUIZ

Abstract. The representation space of nondegenerate continua was studied for the first time by José G. Anaya, et al. (*On representation spaces*, Topology Appl. **164** (2014), 1–13). In this paper we show that the character of the representation space of all nondegenerate continua is equal to $\aleph_0$. We introduce the concept of strong triod, which helps us to characterize the interior of the class of triods in the family of locally connected continua under surjective mappings which is a partial answer to Problem 3.16 in the above paper. Also, we characterize the interior of the class of triods under surjective confluent mappings, which answers affirmatively Problem 4.11(2) in the same paper.

1. Introduction

A *continuum* is a nonempty compact connected metric space. In [2] the authors define the closure operator Cl_α on the set $\mathcal{N}$ (where $\mathcal{N}$ denotes the class of nondegenerated continua and α is a class of mappings with the composition property, see Definition 2.2), and so the concept of representation started to be a subject of interest to several authors. In [1], we find a complete study of some properties of $(\mathcal{N}, \tau_\alpha)$; for example, the authors show that $(\mathcal{N}, \tau_\alpha)$ is not a T_0 space and its weight is $\mathfrak{c}$, but they only prove that $\aleph_0$ is an upper bound of the character of $(\mathcal{N}, \tau_\alpha)$ (see [1, Theorem 3.2]).

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