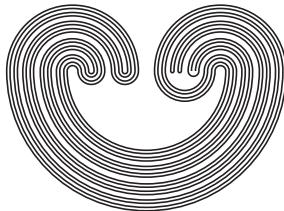


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SELECTIBILITY IS NOT PRESERVED UNDER OPEN LIGHT MAPPINGS BETWEEN FANS

by

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FERNANDO OROZCO-ZITLI

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SELECTIBILITY IS NOT PRESERVED UNDER OPEN LIGHT MAPPINGS BETWEEN FANS

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ABSTRACT. In this paper, we give an example of an open-light mapping between fans that does not preserve selectibility, which is an answer to the following question posed by Tadeusz Maćkowiak in *Continuous selections for $C(X)$* [Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys. **26** (1978), no. 6]: Does it follow that an open image of a selectable fan is selectable? Further, it is an answer to the following question posed by J. J. Charatonik, W. J. Charatonik, and S. Miklos in *Confluent mappings of fans* [Dissertationes Math. (Rozprawy Mat.) **301**, 1990]: Is selectibility invariant under mappings of fans that are (1) light and open, (2) open, (3) light and confluent?

1. INTRODUCTION

A *continuum* means a nonempty compact and connected metric space. A mapping is a continuous function. A continuum is said to be *hereditarily unicohesive* if the intersection of any two of its subcontinua is connected. An *arc* is understood as a homeomorphic image of a closed unit interval of the real line. If any two points of a space Z can be joined by an arc lying in Z , then Z is said to be *arcwise connected*.

A *dendroid* is defined as an arcwise connected and hereditarily unicohesive continuum. A point p of a dendroid X is called a *ramification point* of X (in the classical sense) if there exist three arcs emanating from

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