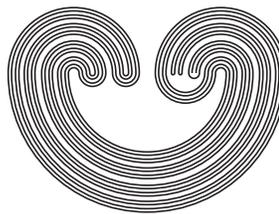


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ON WEAKLY CONTINUUM-CHAINABLE CONTINUA

by

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ON WEAKLY CONTINUUM-CHAINABLE CONTINUA

ROSARIO A. LÓPEZ AND SERGIO MACÍAS

Dedicated to Professor Charles L. Hagopian on the occasion of his 80th birthday

ABSTRACT. We introduce two new classes of continua: semiweakly continuum-chainable and weakly continuum-chainable continua, both of which are generalizations of continuum-chainable continua. Knaster continua and solenoids are examples of indecomposable weakly continuum-chainable continua. Weakly continuum-chainable continua are preserved under finite products, symmetric products, and inverse limits with confluent bonding maps. We give an example of a decomposable weakly continuum-chainable continuum that contains an indecomposable continuum. We also introduce a new family of subsets of a continuum: the continuum-chainable composants of a continuum. A continuum is weakly continuum-chainable if and only if its continuum-chainable composants are dense. We present a couple of examples of continua such that their continuum-chainable composants are arcs and form an upper semi-continuous decomposition of them. We give sufficient conditions for a continuum to have its nondegenerate continuum-chainable composants arcwise connected.

1. INTRODUCTION

We present two new classes of continua, namely, semiweakly continuum-chainable and weakly continuum-chainable continua, both of which are generalizations of continuum-chainable continua. We also introduce a new family of subsets of a continuum called a continuum-chainable composants.

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Key words and phrases. continuum, continuum-chainable composant, continuum-chainable continuum, inverse limit of continua, semiweakly continuum-chainable continuum, weakly continuum-chainable continuum.

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