

Hart, Klaas Pieter; van der Steeg, B. J.

On the Maćkowiak-Tymchatyn theorem. (English) Zbl 1072.54022
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A *continuum* is a compact connected space, and a continuum is *decomposable* if it can be written as the union of two of its proper subcontinua. Otherwise we say it is *indecomposable*. If every subcontinuum of a continuum, X , is indecomposable then we say that X is *hereditarily indecomposable*. A continuous mapping $f : X \rightarrow Y$ is called *weakly confluent* provided that every subcontinuum in the subcontinuum of Y is an image of some subcontinuum of X . The Maćkowiak and Tymchatyn theorem states that every metric continuum is a weakly confluent image of some one-dimensional hereditarily indecomposable metric continuum. In the paper under review the authors utilize model-theoretic techniques to prove the Maćkowiak and Tymchatyn theorem. This is a quite interesting application of model theory to metric continuum theory.

Reviewer: [Brian Raines \(Waco\)](#)

MSC:

- [54F15](#) Continua and generalizations
- [54C10](#) Special maps on topological spaces (open, closed, perfect, etc.)
- [06D05](#) Structure and representation theory of distributive lattices
- [03C98](#) Applications of model theory

Keywords:

[metric continuum](#); [weakly confluent](#); [indecomposable metric continuum](#); [model theory](#)

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