http://topology.nipissingu.ca/tp/



PROPER ABSOLUTE EXTENSORS

by

Vesko Valov

Electronically published on August 27, 2023

This file contains only the first page of the paper. The full version of the paper is available to Topology Proceedings subscribers. See http://topology.nipissingu.ca/tp/subscriptioninfo.html for information.

Topology Proceedings

Web:	http://topology.nipissingu.ca/tp/
Mail:	Topology Proceedings
	Department of Mathematics & Statistics
	Auburn University, Alabama 36849, USA
E-mail:	topolog@auburn.edu
ISSN:	(Online) 2331-1290, (Print) 0146-4124

COPYRIGHT (C) by Topology Proceedings. All rights reserved.



E-Published on August 27, 2023

PROPER ABSOLUTE EXTENSORS

VESKO VALOV

ABSTRACT. We describe the proper absolute (neighborhood) extensors for the class of at most *n*-dimensional spaces, notation $A(N)E_p(n)$. For example, the unique locally compact *n*-dimensional separable metric space $X \in AE_p(n)$ satisfying the DDⁿP-property is the space obtained by deleting a point from the *n*-dimensional Menger compactum. Non-metrizable $A(N)E_p(n)$ -spaces are also described.

1. INTRODUCTION AND PRELIMINARY RESULTS

In this note we describe the proper absolute extensors for finite-dimensional spaces, see Theorem 2.4 and Theorem 3.2. Recall that a map $f: X \to Y$ is proper if $f^{-1}(K)$ is compact for every compact $K \subset Y$. Note that if X, Y are locally compact, then f is proper iff it is closed and all fibres $f^{-1}(y), y \in Y$, are compact. Proper and closed extensions of maps were considered by different authors, see Michael [13], Nowiński [15]. Our results are closer to Chigogidze's ones from [4], where proper absolute (neighborhood) extensors were introduced and studied.

²⁰²⁰ Mathematics Subject Classification. Primary 54C20; Secondary 54F45. Key words and phrases. absolute proper extensor for *n*-dimensional spaces, DDⁿPproperty, *n*-dimensional Menger compactum.

The author was partially funded by NSERC Grant 261914-19. (©2023 Topology Proceedings.

¹⁰⁷

This file contains only the first page of the paper. The full version of the paper is available to Topology Proceedings subscribers. See http://topology.nipissingu.ca/tp/subscriptioninfo.html for information.