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TOPOLOGY PROCEEDINGS

Volume 51, 2018

Pages 61-75

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Electronically published on July 5, 2017

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ISSN:	(Online) 2331-1290, (Print) 0146-4124

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TOPOLOGY PROCEEDINGS
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E-Published on July 5, 2017

CAUCHY sn-SYMMETRIC SPACES WITH A cs-NETWORK (cs^*-NETWORK) HAVING PROPERTY σ-(P)

TRAN VAN AN AND LUONG QUOC TUYEN

Abstract. In this paper, we introduce the concept of Cauchy sn-symmetric spaces, consider properties of Cauchy sn-symmetric spaces with cs-networks (cs^*-networks) having certain σ-(P) properties, and give some characterizations of images of metric spaces under certain sequence-covering π-maps. Then, we give affirmative answers to the problems posed by Y. Tanaka and Y. Ge in [18], and give some partial answers to the problems posed by Y. Ikeda, C. Liu and Y. Tanaka in [6].

1. Introduction and Preliminaries

In 2002, Y. Ikeda, C. Liu and Y. Tanaka introduced the notion of σ-strong networks as a generalization of "development" in developable spaces, and consider certain quotient images of metric spaces in terms of σ-strong networks. By means of σ-strong networks, some characterizations for the quotient compact images of metric spaces are obtained (see in [6], [18], for example). It is known that if X is a quotient compact image of a metric space, then X is a symmetric space having a σ-point-finite cs^*-network, see in [6]. Then, the following question was posed by Y. Ikeda, C. Liu and Y. Tanaka.

2010 *Mathematics Subject Classification.* Primary 54C10, 54D55, 54E40; Secondary 54E99.

Key words and phrases. cs-network; cs^*-network; Cauchy sn-symmetric space; σ-(P)-strong network; property σ-(P); $\alpha(P)$-map.

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