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by

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OXTOBY SPACES, PSEUDOCOMPLETENESS, AND HYPERSPACES

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Abstract. The subclasses of all O-pseudocomplete spaces, of all T-pseudocomplete spaces, and of all Oxtoby spaces of the class of Baire spaces are considered. Additionally, the relation between a space belonging to such a subclass and its hyperspaces belonging in the same subclass are studied.

1. Introduction

A topological space X is called *Baire* (see [8]) if the intersection of any sequence of dense open subsets of X is dense in X. This notion has been largely studied. It is well known that all locally compact Hausdorff spaces and all completely metrizable spaces are Baire spaces, and the class of Baire spaces is not productive (see [11] and [16]). Because of such behaviour of this class of spaces, special productive subclasses of the class of Baire spaces that include all locally compact Hausdorff spaces and completely metrizable spaces have been considered, namely, the subclass consisting of all O-pseudocomplete spaces, introduced in [16]; the subclass consisting of all T-pseudocomplete spaces, a weaker form of O-pseudocomplete spaces presented in [19]; and the subclass consisting of all Oxtoby spaces, a modification of the notion of O-pseudocomplete spaces introduced in [9] (see definitions in section 3).

On the other hand, the hyperspace of all nonempty closed subsets of a space X and the hyperspace of all nonempty compact closed subsets of X

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