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UNIVERSAL SPACES FOR SONE FAMILIES OF RIM-SCATTERED SPACES

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1. Introduction.

1.1. Definitions and notations. All spaces considered in this paper are separable and metrizable and the ordinals are countable.

Let F be a subset of a space X. By $Bd(F)$, $Cl(F)$, $Int(F)$ and $|F|$ we denote the boundary, the closure, the interior and the cardinality of F, respectively. An open (respectively, closed) subset U of X' is called *regular* iff $U=Int(Cl(U))$ (respectively, $U=Cl(Int(U))$). If X is a metric space, then the diameter of F is denoted by $diam(F)$. A map f of a space X into a space Y is called *closed* iff the subset $f(F)$ of Y is closed for every closed subset F of X.

A *compactum* is a compact metrizable space; a *continuum* is a connected compactum. A space is said to be *scattered* iff every non-empty subset has an isolated point.

A space Y is said to be an *extension* of X iff X is a dense subset of Y. A space Y is said to be a *compactification* of X iff Y is a compact extension of X. Let Y and Z be extensions of X. A map π of Y into Z is called a *natural projection* iff $\pi(x)=x$ for every $x\in X$. Obviously, if there exist a natural projection of Y into Z, then it is uniquely determined.

A space T is said to be *universal* for a family A of spaces iff both the following conditions are satisfied: (α) $T\in A$, (β) for every $X\in A$, there exists an embedding of X in T. If ony condition (β) is satisfied, then T is called a *containing space* for a family A.

A *partition* of a space X is a set D of closed subsets of X such that (α) if $F_1, F_2\in D$ and $F_1\neq F_2$, then $F_1\cap F_2=\emptyset$, and (β) the union of all elements of D is X. The *natural projection* of X onto D is the map π defined as follows, if $x\in X$, then $\pi(x)=F$, where F is the uniquely determined element of D containing x. The *quotient space* of the partition D is the set D with a topology which is the maximal on D for which the map π is continuous. (We observe that we use the same notation for a partition of aspace and for the correspond-

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