

Věra Trnková

Products of topological spaces represent any semigroup (Preliminary communication)

*Commentationes Mathematicae Universitatis Carolinae*, Vol. 16 (1975), No. 2, 393--394

Persistent URL: <http://dml.cz/dmlcz/105633>

## Terms of use:

© Charles University in Prague, Faculty of Mathematics and Physics, 1975

Institute of Mathematics of the Academy of Sciences of the Czech Republic provides access to digitized documents strictly for personal use. Each copy of any part of this document must contain these *Terms of use*.



This paper has been digitized, optimized for electronic delivery and stamped with digital signature within the project *DML-CZ: The Czech Digital Mathematics Library* <http://project.dml.cz>

PRODUCTS OF TOPOLOGICAL SPACES REPRESENT ANY SEMIGROUP

(Preliminary communication)

Věra TRNKOVÁ, Praha

Key words: Semigroup, representation, products.

AMS: 54G10, 54G15, 20M30      Ref. Ž.: 3.961

---

All semigroups are supposed to be commutative. Let  $S$  be a semigroup (with an operation  $+$ ),  $C$  be a class of topological spaces. Any mapping

$$r: S \rightarrow C$$

such that for any  $s, t \in S$

(i)  $r(s + t)$  is always homeomorphic to  $r(s) \times r(t)$

(ii) if  $s \neq t$ , then  $r(s)$  is not homeomorphic to  $r(t)$

is called a representation of  $S$  by products of spaces from  $C$ .

Theorem 1. Any countable semigroup has a representation by products of locally compact metrizable spaces.

Theorem 2. Any semigroup has a representation by products of Tichonoff spaces.

Theorem 3. If there is no measurable cardinal, then any semigroup has a representation by products of locally

compact strongly paracompact Hausdorff spaces.

The full proofs will appear in J. of Algebra under the title "Representation of commutative semigroups by products in a category" (the first part of the proofs) and in Semigroup Forum under the title "On a representation of commutative semigroups" (the remaining part of the proofs).

Matematicko-fyzikální fakulta

Karlova universita

Sokolovská 83, 18600 Praha 8

Československo

(Oblatum 30.4. 1975)