

Vaughan, Jerry E.

On the product of a compact space with an absolutely countably compact space. (English)

[Zbl 0917.54023](#)

Coplakova, Eva (ed.) et al., Papers on general topology and applications. Proceedings of the 10th summer conference, Amsterdam, Netherlands, August 15–18, 1994. New York, NY: New York Academy of Sciences. Ann. N. Y. Acad. Sci. 788, 203-208 (1996).

It is known that a space X is countably compact if and only if for every open cover \mathcal{U} , there is a finite subset F of X such that $St(F, \mathcal{U}) = X$. A space X is absolutely countably compact (acc) provided that for every open cover \mathcal{U} and dense subset D , there is a finite subset F of D such that $St(F, \mathcal{U}) = X$. Unlike countable compactness, the stronger acc property of X is not preserved by taking a product of X with a compact space. In this paper, sufficient conditions are given for such a product with a compact space to be acc. The main result is that if Y is a compact sequential T_2 -space and X is an acc T_3 -space then $X \times Y$ is acc. It also follows from a related result that every countably compact GO-space is acc.

For the entire collection see [[Zbl 0903.00049](#)].

Reviewer: [R.A.McCoy \(Blacksburg\)](#)

MSC:

- [54D20](#) Noncompact covering properties (paracompact, Lindelöf, etc.)
- [54B10](#) Product spaces in general topology
- [54D55](#) Sequential spaces

Cited in **10** Documents

Keywords:

absolutely countably compact; ω -bounded; countable tightness; sequential space