On the class of all spaces whose product with every paracompact space is paracompact

Kazimierz Alster[1]

kalster@impan.pl

The general question is to characterize the class P of all spaces whose Cartesian product with every paracompact space is paracompact and to verify whether the class is closed with respect to closed mappings and the product of countably many copies of X is paracompact provided that X belongs to P.

R. Telgarsky, in connection with the productivity of paracompactness, introduced a $G(DC, X)$ game of two players in a topological space X and proved that if X is a paracompact space and the first player has a winning strategy then X belongs to P.H. Tanaka proved that if X satisfies the above mentioned assumptions then also the product of countably many copies of X is paracompact. I noticed that a closed image of such a space X has the same properties.

These results led me to a conjecture which I called the Telgarsky conjecture:

Conjecture *A paracompact space X belongs to P if and only if the first player of the $G(DC, X)$ game has a winning strategy.*

Some results supporting this conjecture have been obtained.

During my talk I will focus on some characterizations of projections of X onto the first α coordinates provided that X belongs to P and

[1] The author was partially supported by the ESF.