

Function spaces on Corson-like compacta

Krzysztof Zakrzewski

Recall that a compact space K is Eberlein compact if it can be embedded into some Banach space X equipped with the weak topology. A compact space K is κ -Corson compact if, for some set Γ , K is homeomorphic to a subset of the Σ_κ -product of real lines $\Sigma_\kappa(R^\Gamma)$, i.e. the subspace of the product R^Γ consisting of functions with supports smaller than κ . While trying to examine these classes systematically one discovers quickly that the case $\kappa = \omega$ is quite special. We also consider a class of compact spaces wider than the class of ω -Corson compact spaces, investigated in [NY] and [MPZ], called NY compact spaces. We prove that classes of NY compact spaces and ω -Corson compact spaces K are preserved under linear homeomorphisms of function spaces $C_p(K)$.

References

- [NY] L.B. Nakhmanson and N.N. Yakovlev, *Bicomacta lying in σ -products*, Comment. Math. Univ. Carolin. **22** (1981), no. 4, 705–719.
- [MPZ] W. Marciszewski, G. Plebanek, K. Zakrzewski, *Digging into the classes of κ -Corson compact spaces*, Isr. J. Math., accepted.