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A nice class extracted from C_p -theory

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Abstract: We study systematically a class of spaces introduced by Sokolov and call them Sokolov spaces. Their importance can be seen from the fact that every Corson compact space is a Sokolov space. We show that every Sokolov space is collectionwise normal, ω -stable and ω -monolithic. It is also established that any Sokolov compact space X is Fréchet-Urysohn and the space $C_p(X)$ is Lindelöf. We prove that any Sokolov space with a G_δ -diagonal has a countable network and obtain some cardinality restrictions on subsets of small pseudocharacter lying in Σ -products of cosmic spaces.

Keywords: Corson compact space, Sokolov space, extent, ω -monolithic space, Σ -products

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