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On p -sequential p -compact spaces

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Abstract: It is shown that a space X is $L({}^\mu p)$ -Weakly Fréchet-Urysohn for $p \in \omega^*$ iff it is $L({}^\nu p)$ -Weakly Fréchet-Urysohn for arbitrary $\mu, \nu < \omega_1$, where ${}^\mu p$ is the μ -th left power of p and $L(q) = \{{}^\mu q : \mu < \omega_1\}$ for $q \in \omega^*$. We also prove that for p -compact spaces, p -sequentiality and the property of being a $L({}^\nu p)$ -Weakly Fréchet-Urysohn space with $\nu < \omega_1$, are equivalent; consequently if X is p -compact and $\nu < \omega_1$, then X is p -sequential iff X is ${}^\nu p$ -sequential (Boldjiev and Malyhin gave, for each P -point $p \in \omega^*$, an example of a compact space X_p which is p -Fréchet-Urysohn and it is not p -Fréchet-Urysohn. The question whether such an example exists in ZFC remains unsolved).

Keywords: p -compact, p -sequential, $FU(p)$ -space, Rudin-Keisler order, tensor product of ultrafilters, left power of ultrafilters, $SMU(M)$ -space, $WFU(M)$ -space
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