

High dimensional sequential compactness

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We will introduce high dimensional versions of sequential compactness for every ordinal $\alpha < \omega_1$. This will generalize a previous notion introduced by W. Kubis and P. Szeptycki for $\alpha \in \omega$. We then extend some known results in the finite case to the infinite case, exhibit some conditions that imply sequential compactness for higher dimensions and analyze the impact of some cardinal invariants in these classes of spaces. We will close with some remarks and applications.

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