Peng-Fei Yan, Zhongqiang Yang
Mesocompactness and selection theory

Abstract: A topological space X is called *mesocompact* (*sequentially mesocompact*) if for every open cover $\mathcal{U}$ of X, there exists an open refinement $\mathcal{V}$ of $\mathcal{U}$ such that $\{V \in \mathcal{V} : V \cap K \neq \emptyset\}$ is finite for every compact set (converging sequence including its limit point) K in X. In this paper, we give some characterizations of mesocompact (sequentially mesocompact) spaces using selection theory.

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