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On the extent of separable, locally compact, selectively (a)-spaces

Samuel G. da Silva

Universidade Federal da Bahia, Brazil

Resumo

The author has recently shown that separable, selectively (a)-spaces cannot include closed discrete subsets of size $\mathfrak{c}$. It follows that, assuming **CH**, separable selectively (a)-spaces have, necessarily, countable extent. However, it was also shown by the author that the weaker hypothesis "$2^{\aleph_0} < 2^{\aleph_1}$" is not enough to ensure countability of the closed discrete subsets of such spaces. In this note we show that, if one adds the hypothesis of local compactness, then a specific effective (meaning, Borel) parametrized weak diamond principle implies countable extent in this context.