Recall that a semitopological group is a group with a topology such that the multiplication in the group is separately continuous. A paratopological group is a group with a topology such that the multiplication is jointly continuous. If \( G \) is a paratopological group and the inverse operation of \( G \) is continuous, then \( G \) is called a topological group.

In this paper, a new cardinal function called the strong Hausdorff number in semitopological groups is introduced. It is shown that every paratopological group with countable strong Hausdorff number is \( \omega \)-admissible. Applying this result, it is proved that every bounded set in a paratopological group with countable strong Hausdorff number is strongly bounded, which partially answers to a question posed by Sánchez and Tkachenko.

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- 54H11 Topological groups (topological aspects)
- 54D30 Compactness
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References:
[3] Ravsky, A., Pseudocompact paratopological groups that are topological (2013)
[7] Sánchez, I.; Tkachenko, M., C-compact and \( r \)-pseudocompact subsets of paratopological groups, Topol. Appl., 203, 125-140 (2016) · Zbl 1336.22004

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