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*Locally precompact groups*

A subset  $B$  of a (Hausdorff) topological group  $G$  is said to be *precompact* if for every neighborhood  $U$  of the identity in  $G$ , there is a finite subset  $F \subseteq G$  such that  $B \subseteq (FU) \cap (UF)$ . An interesting subclass of the class of precompact groups was identified and studied by Comfort and Ross, who showed inter alia that a topological group  $G$  is pseudocompact if and only if it is precompact and  $G_\delta$ -dense in its completion  $\tilde{G}$  (cf. [2]). Since then, precompact groups have been a focus of interest (cf. [4], [1]).

A group  $G$  is *locally precompact* if it contains a precompact neighborhood of the identity. The completion of a locally precompact group is locally compact (cf. [6]), and thus such groups are precisely the subgroups of locally compact groups. Comfort and Trigos-Arrieta extended the Comfort–Ross criterion, and proved that a locally precompact group  $G$  is locally pseudocompact if and only if it is  $G_\delta$ -dense in  $\tilde{G}$  (cf. [3]). Locally pseudocompact groups were also studied by Sanchis (cf. [5]). In this talk, we discuss the relationship between cardinal invariants of locally precompact groups and completeness properties such as realcompactness.

## References

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