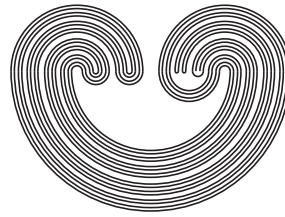


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FAT DELTA 2: FUNCTORIAL SUBGROUPS OF TOPOLOGICAL ABELIAN GROUPS

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ABSTRACT. In the predecessor [16] of this paper the canonical subgroup (Fat Delta) $\Delta(G)$ of a compact abelian group G was studied. It is the sum of all closed disconnected subgroups of G and it appeared before in the literature (see [28]) as $\text{td}(G)$, defined for arbitrary topological groups and motivated by completely different considerations. We introduce and compare further functorial subgroups of general topological groups and study their relationships with $\Delta(G)$ and $\text{td}(G)$.

Respectfully dedicated to the memory of Ralph Kopperman

All topological groups that appear in this paper are Hausdorff and abelian, apart from some exceptions in §5.2 and §5.3.

1. INTRODUCTION

The topological groups studied in [16] are mainly the Pontryagin duals of discrete abelian groups, i.e., compact abelian groups, with some emphasis on the duals of torsion-free groups, which are exactly the compact connected abelian groups. In this paper we supplement and generalize the results of [16] to the case of non-compact topological groups.

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