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Peter Loth* (lothp@sacredheart.edu), Department of Mathematics, Sacred Heart University,
5151 Park Avenue, Fairfield, CT 06825. *Pure exact sequences of locally compact abelian
groups*. Preliminary report.

In this paper, we study the group $\text{Pext}(C, A)$ for locally compact abelian groups A and C . The results involve the Pontrjagin duals of the groups A and C as well as direct sums and topological direct products of locally compact groups. It is shown that in general, there is no monomorphism $\text{Pext}(C, A) \rightarrow \prod_{i \in I} \text{Pext}(C, A_i)$ if A is a the direct product of discrete groups $A_i (i \in I)$ such that A is endowed with the discrete topology. Sufficient conditions are established for the group $\text{Pext}(C, A)$ to coincide with the first Ulm subgroup of $\text{Ext}(C, A)$. (Received August 14, 2005)