1014-20-257 **Peter Loth*** (lothp@sacredheart.edu), Department of Mathematics, Sacred Heart University, 5151 Park Avenue, Fairfield, CT 06825. *Splitting pure extensions of LCA groups.* Preliminary report.

In this paper, we study the concept of purity in the category of locally compact abelian (LCA) groups. Some structural information is given on those LCA groups G such that every pure extension of G splits. Letting $\mathbf{C}$ denote the class of LCA groups which can be written as the topological direct sum of a compactly generated group and a discrete group, we determine the groups G in $\mathbf{C}$ which are pure injective in the category of LCA groups. Finally we describe those groups G in $\mathbf{C}$ such that every pure extension of G by a group in $\mathbf{C}$ splits and obtain a corresponding dual result. (Received September 01, 2005)