

## **Fourier and Fourier-Stieltjes algebra of a locally compact group**

If  $G$  is a locally compact abelian group, and  $\widehat{G}$  is the dual group of  $G$ . Then the Fourier transform of functions in  $L^1(\widehat{G})$ , the group algebra of  $\widehat{G}$ , is a subalgebra  $A(G)$  of  $CB(G)$ , the space of bounded continuous complex-valued functions on  $G$  with pointwise multiplication called the Fourier algebra of  $G$ , and the Fourier-Stieltjes transform of measures in  $M(\widehat{G})$ , the measure algebra of  $\widehat{G}$ , also a subalgebra of  $CB(G)$ , called the Fourier-Stieltjes algebra of  $G$ . In this talk, I shall describe the Fourier and Fourier-Stieltjes algebra of an arbitrary locally compact group, their basic properties and some open problems. I shall also include a recent Decomposition Theorem of  $B(G)$  due to T. Miao with an elementary proof.