MULTIPLIERS OF MULTIDIMENSIONAL FOURIER ALGEBRAS

I. G. TODOROV AND L. TUROWSKA

Abstract. Let \( G \) be a locally compact \( \sigma \)-compact group. Motivated by an earlier notion for discrete groups due to Effros and Ruan, we introduce the multidimensional Fourier algebra \( A^n(G) \) of \( G \). We characterise the completely bounded multidimensional multipliers associated with \( A^n(G) \) in several equivalent ways. In particular, we establish a completely isometric embedding of the space of all \( n \)-dimensional completely bounded multipliers into the space of all Schur multipliers on \( G^{n^2+1} \) with respect to the (left) Haar measure. We show that in the case \( G \) is amenable the space of completely bounded multidimensional multipliers coincides with the multidimensional Fourier-Stieltjes algebra of \( G \) introduced by Ylinen. We extend some well-known results for abelian groups to the multidimensional setting.


Keywords and phrases: Fourier algebra, multiplier, Schur multiplier, multidimensional.

REFERENCES


