

## Dilation of Projective Isometric Representation

Un Cig Ji

Department of Mathematics, Chungbuk National University, Cheongju 361-763, Korea  
uncigji@cbucc.chungbuk.ac.kr

We study a unitary operator (in a  $*$ -subalgebra of a  $C^*$ -algebra)-valued multiplier  $\sigma$  on a normal, generating subsemigroup  $S$  of a group  $G$  with its extension to  $G$ . A dilation of a projective isometric  $\sigma$ -representation of  $S$  is established as a projective unitary  $\rho$ -representation of  $G$  for a suitable unitary operator-valued multiplier  $\rho$  associated with the multiplier  $\sigma$  which is explicitly constructed.