Summary: In this paper, we first analyze the algebraic structure of group $C^*$-algebras of the generalized Dixmier groups, and next consider that of group $C^*$-algebras of some Lie semi-direct products with multi-diagonal or diagonal actions. As an application, we estimate the stable rank and the connected stable rank of these $C^*$-algebras in terms of groups. Also, we show that some of these group $C^*$-algebras have no nontrivial projections.

MSC:

46L05 General theory of $C^*$-algebras
46L80 $K$-theory and operator algebras (including cyclic theory)
46L35 Classifications of $C^*$-algebras
22D25 $C^*$-algebras and $W^*$-algebras in relation to group representations
19K56 Index theory

Keywords:
group $C^*$-algebras; stable rank

Full Text: DOI

References:


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