

I. Beltiță

Institute of Mathematics "Simion Stoilow", Romanian Academy, Bucharest, Romania
ingrid.beltita@imar.ro

D. Beltiță

Institute of Mathematics "Simion Stoilow", Romanian Academy, Bucharest, Romania
daniel.beltita@imar.ro

The C^* -Algebras of Completely Solvable Lie Groups are Solvable

We prove that if a connected and simply connected Lie group G admits connected closed normal subgroups $G_1 \subseteq G_2 \subseteq \cdots \subseteq G_m = G$ with $\dim G_j = j$ for $j = 1, \dots, m$, then its group C^* -algebra has closed two-sided ideals $\{0\} = \mathcal{J}_0 \subseteq \mathcal{J}_1 \subseteq \cdots \subseteq \mathcal{J}_n = C^*(G)$ with $\mathcal{J}_j/\mathcal{J}_{j-1} \simeq \mathcal{C}_0(\Gamma_j, \mathcal{K}(\mathcal{H}_j))$ for a suitable locally compact Hausdorff space Γ_j and a separable complex Hilbert space $\mathcal{H}_j$, where $\mathcal{C}_0(\Gamma_j, \cdot)$ denotes the continuous mappings on Γ_j that vanish at infinity, and $\mathcal{K}(\mathcal{H}_j)$ is the C^* -algebra of compact operators on $\mathcal{H}_j$ for $j = 1, \dots, n$.

Keywords: Completely solvable Lie group, solvable C^* -algebra.

MSC: 22E27; 17B30, 46L05, 46L55.