

SOME ASPECTS ON REPRESENTATION THEORY OF INVOLUTIVE GROUP ALGEBRAS

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ABSTRACT

Let A be a separable C^* -algebra and G_1 and G_2 be two locally compact groups. We consider two C^* -dynamical systems (A, G_1, θ) and (A, G_2, ξ) with two states f and g which are stationary for the group morphisms θ and ξ respectively. Let H_{π_f} and H_{π_g} be the associated Hilbert spaces and $L^1(G_1, A; \theta)$ and $L^1(G_2, A; \xi)$ be the involutive group algebras. For every element u in $H_{\pi_f} \otimes_{\gamma} H_{\pi_g}$, we obtain a positive form τ on the projective tensor product of $L^1(G_1, A; \theta)$ and $L^1(G_2, A; \xi)$. Again, for two specific left ideals N_{1j} and N_{2j} of $L^1(G_1, A; \theta)$ and $L^1(G_2, A; \xi)$ respectively, we show that $\cap(N_{1j} \otimes N_{2j}) + \cap(N_{1j}^* \otimes N_{2j}^*)$ is contained in $\ker \tau$.

KEY WORDS: Involutive group algebra/ tensor product / C^* -dynamical system / positive form