

CROSSED PRODUCTS AND ENTROPY OF AUTOMORPHISMS

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Abstract

Let \mathcal{A} be an exact C^* -algebra, let G be a locally compact group, and let (\mathcal{A}, G, α) be a C^* -dynamical system. Each automorphism α_g induces a spatial automorphism Ad_{λ_g} on the reduced crossed product $\mathcal{A} \times_{\alpha} G$. In this paper we examine the question, first raised by E. Størmer, of when the topological entropies of α_g and Ad_{λ_g} coincide. This had been answered by N. Brown for the particular case of discrete abelian groups. Using different methods, we extend his result to a wider class of groups called locally $[FIA]^-$. This class includes all abelian groups, both discrete and continuous, as well as all compact groups.