
ALI ASADI-VASFI, University of Tehran

The radius of comparison of the crossed product by a tracially strictly approximately inner action

Let G be a finite group, let A be an infinite-dimensional stably finite simple unital C^* -algebra, and let $\alpha: G \rightarrow \text{Aut}(A)$ be a tracially strictly approximately inner action of G on A . Then the radius of comparison satisfies $\text{rc}(A) \leq \text{rc}(A \rtimes_{\alpha} G)$ and if $A \rtimes_{\alpha} G$ is simple, then $\text{rc}(A) \leq \text{rc}(A \rtimes_{\alpha} G) \leq \text{rc}(A^{\alpha})$.

Also, for every finite group G and for every $\eta \in \left(0, \frac{1}{\text{card}(G)}\right)$, we construct a simple separable unital AH algebra A with stable rank one and a strictly approximately inner action $\alpha: G \rightarrow \text{Aut}(A)$ such that:

- (1) α is pointwise outer and doesn't have the weak tracial Rokhlin property.
- (2) $\text{rc}(A) = \text{rc}(A \rtimes_{\alpha} G) = \eta$.