

## Connes amenability for certain product of Banach algebras

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### Abstract

The purpose of this article is to develop the notions of Connes amenability for certain product of Banach algebras. We give necessary and sufficient conditions for the existence of a invariant mean on the predual of  $\Theta$ -Lau product  $\mathcal{A} \times_{\Theta} \mathcal{B}$ , module extension Banach algebra  $\mathcal{A} \oplus \mathcal{X}$  and projective tensor product  $\widehat{\mathcal{A}} \widehat{\otimes} \mathcal{B}$ , where  $\mathcal{A}$  and  $\mathcal{B}$  are dual Banach algebras with preduals  $\mathcal{A}_*$  and  $\mathcal{B}_*$  and  $\mathcal{X}$  is a normal Banach  $\mathcal{A}$ -bimodule with predual  $\mathcal{X}_*$ .

### Keywords

Connes amenability; Banach algebras; derivation; group algebra; invariant mean

### + References



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