

Banach Algebras 2009

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On amenability properties of Rajchman algebras.

ABSTRACT. The Fourier and Fourier-Stieltjes algebras of a non-Abelian locally compact group has been defined in a well-cited paper by Eymard, where he used a representation theoretic approach. In addition to the Fourier and Fourier-Stieltjes algebras, one can define the Rajchman algebra associated with a locally compact group to be the set of all elements of the Fourier-Stieltjes algebra which vanish at infinity. We study the amenability properties of the Rajchman algebras. Since the Rajchman algebra is not amenable for many groups, we study weaker types of amenability properties of Rajchman algebras such as weak and forms of operator amenability. Finally, we construct point derivations on Rajchman algebras of some classes of groups (e.g. noncompact locally compact Abelian groups) using certain decompositions of measure algebras.