



SEMINAR

Grupo de Análise Funcional e Aplicações Functional Analysis and Applications Group

Fredholmness in C^* -algebras of Singular Integral Operators with Shifts

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Abstract

Consider the C^* -algebra $\mathfrak{B} := \text{alg}(\mathcal{A}, U_G) \subseteq \mathcal{B}(L^2(\mathbb{T}))$ generated by a local C^* -subalgebra \mathcal{A} , of singular integral operators, and by the range U_G of a unitary representation of an amenable discrete group G of homeomorphisms $g : \mathbb{T} \rightarrow \mathbb{T}$.

The main goal of this talk is to show some important tools, of the general theory of C^* -algebras, which have been proven useful in investigating the invertibility and the Fredholmness of operators in C^* -algebras of type \mathfrak{B} .

In the end we will have remembered some concepts of the theory of C^* -algebras and constructed a Fredholm symbol for a realization of the algebra \mathfrak{B} , consisting of singular integral operators with piecewise slowly oscillating coefficients and a group of shifts similar to affine mappings.

The talk is based on the joint work with M. Amélia Bastos and Yu. I. Karlovich.

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