Algebra homorphisms and a Katznelson-Tzafriri type theorem for Césaro bounded operators

Luciano Abadias Ulloa

Let $X$ be a complex Banach space. The connection between algebra homomorphisms defined on subalgebras of the Banach algebra $\ell^1(\mathbb{N}_0)$ and the algebraic structure of Cesàro sums of a linear operator $T \in B(X)$ is established. In particular, we show that every $(C, \alpha)$-bounded operator $T$ induces - and is in fact characterized - by such an algebra homomorphism. Our method is based on some sequence kernels, Weyl fractional difference calculus and convolution Banach algebras. See the joint work [1] with C. Lizama, P. J. Miana and M. P. Velasco. I apply these results to prove a Katznelson-Tzafriri type theorem for Césaro bounded operators.

Referencias


1Departamento de Matemáticas/ IUMA
Universidad de Zaragoza
50009 Zaragoza, Spain
labadias@unizar.es