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

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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 $T \in \mathcal{B}(X)$ is established. In particular, we show that every (C, α)-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

[1] L. Abadias, C. Lizama, P. J. Miana and M. P. Velasco: Cesáro sums and algebra homorphisms of bounded operators, *Arxiv* **1504.01357** (2015), 1–25.

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