INTERPOLATION OF CESÀRO AND TANDORI SPACES

KAROL LEŚNIK

We will discuss some recent developments on interpolation of abstract Cesàro spaces CX and Tandori spaces $\widetilde{X}$, where for a given Banach function space on $I = (0,1)$ or $I = (0, \infty)$

$$CX = \{f \in L^0 : (\frac{1}{x} \int_0^x |f|)_{x \in I} \in X\},$$

$$\widetilde{X} = \{f \in L^0 : (\operatorname*{ess\,sup}_{t \geqslant x} |f(t)|)_{x \in I} \in X\}.$$

Firstly we shall present results on the real and complex interpolation of these kind of spaces. In the second part we will explain how the monotone version of Hardy-Littlewood-Pólya submajorization theorem together with monotone substochastic operators leads to conclusion that $(\widetilde{L^1}, L^\infty)$ is a Calderón couple, which answers in positive the question of Sinnamon.