

1154-47-2825

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For each $\alpha > 0$ we define a new operator J^α on L^∞ , such that for every $n \in \mathbb{N}$ we have that $(J^n)(f)$ coincides with taking the n-th iteration of the Cesàro Averaging operator to the function f . We also construct Banach limits that are invariant under these operators. (Received September 18, 2019)