



Surjective Norm Preserving Maps Between Absolutely Continuous Function Spaces

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Abstract

Let X be an arbitrary subset of the real line containing at least two points. By $AC_b(X)$ we mean the space of all absolutely continuous complex-valued functions $f : X \rightarrow \mathbb{C}$ of bounded variation. The aim of this talk is to give a version of the classical Banach-Stone theorem in the context of absolutely continuous function spaces equipped with the two natural norms: $\max\{\|f\|_\infty, \mathcal{V}(f)\}$ and $\|f\|_\infty + \mathcal{V}(f)$, where $\|f\|_\infty = \sup\{|f(x)| : x \in X\}$ and $\mathcal{V}(f)$ is the total variation of f .

In this talk, we first review the main results concerning surjective linear norm preserving maps (isometries) between $AC_b(X)$ -spaces when the underlying space X is compact (see [1, 5]). Then we present generalizations of these results in a non-compact framework ([2, 3, 4]).

Keywords: Norm preserving maps, absolutely continuous functions, weighted composition operator.

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