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On the convergence of iterates of convolution operators in Banach spaces. (English)

Summary: Let $G$ be a locally compact abelian group and let $M(G)$ be the measure algebra of $G$. A measure $\mu \in M(G)$ is said to be power bounded if $\sup_{n \geq 0} \|\mu^n\|_1 < \infty$. Let $T = \{T_g : g \in G\}$ be a bounded and continuous representation of $G$ on a Banach space $X$. For any $\mu \in M(G)$, there is a bounded linear operator on $X$ associated with $\mu$, denoted by $T_\mu$, which integrates $T_g$ with respect to $\mu$. In this paper, we study norm and almost everywhere behavior of the sequences $\{T_\mu^n x\}$ ($x \in X$) in the case when $\mu$ is power bounded. Some related problems are also discussed.

MSC:
43A30 Fourier and Fourier-Stieltjes transforms on nonabelian groups and on semigroups, etc.
47A35 Ergodic theory of linear operators

Full Text: DOI

References:


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