

Pseudo-almost-periodic solutions for delayed differential equations with integrable dichotomies and bi-almost-periodic Green functions

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© 2017 John Wiley & Sons, Ltd. Using the existence of integrable bi-almost-periodic Green functions of linear homogeneous differential equations and the contraction fixed point, we are able to prove the existence of almost and pseudo-almost-periodic mild solutions under quite general hypotheses for the differential equation with constant delay $x(t)=A(t)x(t)+f(t,x(t),x(t-\tau)), t \in \mathbb{R}$, in a Banach space X , where $\tau > 0$ is a fixed constant. The results extend the corresponding ones in the case of exponential dichotomy. Some examples illustrate the importance of the concepts.