

Exponential dichotomy of difference equations and applications to evolution equations on the half-line

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Abstract: For a sequence of bounded linear operator $\{A_n\}_{n=0}^{\infty}$ on a Banach space X , we investigate the characterization of exponential dichotomy of the difference equations $v_{n+1} = A_n v_n$. We characterize the exponential dichotomy of difference equations in terms of the existence of solutions to the equations $v_{n+1} = A_n v_n + f_n$ in l_2 space. Then we apply the result to study the exponential dichotomy of evolution families generated by evolution equations. © 2001 Elsevier Science Ltd.

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