

# Periodic solutions of evolution equations

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**Abstract:** Consider the following evolution equations without delay or with finite or infinite delay in a general Banach space  $X$ ,  $u'(t) + A(t)u(t) = f(t, u(t))$ ,  $t > 0$ ,  $u'(t) + A(t)u(t) = f(t, u(t), u_t)$ ,  $t > 0$ . We will analyze some fixed point theorems and then see how they can be applied to derive periodic solutions for the above mentioned equations.

**Author Keywords:** And Hale and Lunel's Fixed Point Theorems; Bounded and Periodic Solutions; Condensing Operators; Finite and Infinite Delays; Horn's; Sadovskii's

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