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**Spectral conditions of mixing  $C_0$ -semigroups on Banach spaces.** (English) Zbl 1299.47086

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Summary: Let  $\{T(t) : t \geq 0\}$  be a  $C_0$ -semigroup on a Banach space  $X$  and  $A$  denote its infinitesimal generator. Using the point spectrum of  $A$ , we give sufficient conditions for  $\{T(t) : t \geq 0\}$  to be mixing or not mixing. We also characterize mixing by an admissible weight function for the translation semigroup, and employing this characterization we show that the spectral condition for  $\{T(t) : t \geq 0\}$  to be mixing is not necessary.

**MSC:**

47D06 One-parameter semigroups and linear evolution equations

47A10 Spectrum, resolvent

47D60  $C$ -semigroups, regularized semigroups

**Keywords:**

$C_0$ -semigroup; mixing; point spectrum; translation semigroup