Abstract

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"Commutator criteria for strong mixing"

We present new criteria, based on commutator methods, for the strong mixing property of discrete flows $\{U^N\}_{N\in\mathbb{Z}}$ and continuous flows $\{e^{-itH}\}_{t\in\mathbb{R}}$ induced by unitary operators U and self-adjoint operators H in a Hilbert space $\mathcal{H}$. Our approach put into evidence a general definition for the topological degree of the curves $N \mapsto U^N$ and $t \mapsto e^{-itH}$ in the unitary group of $\mathcal{H}$. As an example, we present an application to time changes of horocycle flows.