DOMAINS OF ATTRACTION OF STABLE MEASURES ON THE HEISENBERG GROUP

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Abstract: Let $H_d$ be the $(2d + 1)$-dimensional Heisenberg group and $(\mu_t)_{t \geq 0}$ be a continuous convolution semigroup of probability measures on $H_d$. Let moreover $\mu_1$ be full. A probability measure $\nu$ is said to belong to the domain of attraction of $\mu_1$ if there exists a sequence $(\sigma_n)_n$ of automorphisms of $H_d$ such that $\sigma_n \nu^n \rightarrow \mu_1$ weakly. We prove some simple necessary and sufficient conditions on $\nu$ for the existence of such automorphisms if $(\mu_t)_{t \geq 0}$ has no Gaussian component. Furthermore, the domain of normal attraction of a Gaussian measure on $H_d$ is considered.

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