DECOMPOSITION OF CONVOLUTION SEMIGROUPS ON GROUPS AND THE 0-1 LAW

H. Byczkowska
T. Byczkowski

Abstract: Let $(X(t))_{t>0}$ be a stochastically continuous symmetric Lévy process with values in a complete separable group G. We denote by $(\mu_t)_{t>0}$ the semigroup of one-dimensional distributions of $X(t)$. Suppose that H is a Borel subgroup of G such that $\mu_t(H) > 0$ for all $t > 0$. We obtain a decomposition of the generator of the process $X(t)$ into a bounded part concentrated on H^c and the generator of a semigroup concentrated on H. This yields the $0 - 1$ law for such processes. We also examine the differentiation of transition probability of the induced Markov process $\pi(X(t))$ on the homogeneous space G/H.

2000 AMS Mathematics Subject Classification: Primary: -; Secondary: -;

Key words and phrases: -

THE FULL TEXT IS AVAILABLE HERE