

EXIT TIME AND GREEN FUNCTION OF CONE FOR SYMMETRIC  
STABLE PROCESSES

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*Abstract:* We obtain estimates of the harmonic measure and the expectation of the exit time of a bounded cone for symmetric  $\alpha$ -stable processes  $X_t$  in  $\mathbf{R}^d$  ( $\alpha \in (0, 2), d \geq 3$ ). This enables us to study the asymptotic behaviour of the corresponding Green function of both bounded and unbounded cones. We also apply our estimates to the problem concerning the exit time  $\tau_V$  of the process  $X_t$  from the unbounded cone  $V$  of angle  $\lambda \in (0, \pi/2)$ . We namely obtain upper and lower bounds for the constant  $p_0 = p_0(d, \alpha, \lambda)$  such that for all  $x \in V$  we have  $E^x(\tau_V^p) < \infty$  for  $0 \leq p < p_0$  and  $E^x(\tau_V^p) = \infty$  for  $p > p_0$ .

**1991 AMS Mathematics Subject Classification:** Primary 60J45, 31B2S; Secondary 60J30, 60G40.

**Key words and phrases:** symmetric stable process, harmonic measure, Green function, exit time, cone.

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