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PROPERTIES OF GREEN FUNCTION OF SYMMETRIC STABLE PROCESSES

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Abstract: We study the Green function $G_D(x,y)$ of symmetric α-stable processes in R^d for an open set $D(0<\alpha<2, d\geq 3)$. Our main result gives the upper and the lower bound estimates of $G_D(x,y)$ for a bounded open set D with a $C^{1,1}$ boundary. We also get a more direct formula for the Green function for a ball. As a simple conclusion we obtain "3G Theorem" and estimates of $E^x(\tau_D)$, where τ_D is the exit time of D.

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