

ON DUAL GENERATORS FOR NONLOCAL SEMI-DIRICHLET FORMS

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Let E be a locally compact separable metric space equipped with a metric d , m a positive Radon measure on E with full topological support and $k(x, y)$ a nonnegative Borel measurable function on the space $E \times E \setminus \{(x, x) : x \in E\}$.

We have constructed a Hunt process on E with jump behaviours being governed by $k(x, y)$ by using a lower bounded semi-Dirichlet form on $L^2(E; m)$ in [2] (The conditions imposed on $k(x, y)$ in [2] was relaxed by [3]).

In this talk, we applied the result to the Bass's stable-like process and show a precise expression of the dual generator on $L^2(\mathbb{R}^d)$ under some smoothness conditions on the variable index $\alpha(x)$. In particular, obtaining its dual generator, the Dirichlet form concerning to the reversed kernel $k^*(x, y) = k(y, x) = w(y)|x - y|^{-d-\alpha(y)}$ plays a role.

REFERENCES

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