

INTRINSIC ULTRA CONTRACTIVITY OF SYMMETRIC JUMP PROCESSES ON UNBOUNDED DOMAINS

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Abstract: In this talk, we consider a symmetric pure-jump Markov process on Euclidean space generated by a non-local Dirichlet form with jumping kernel $J(x, y)$. We first discuss sufficient conditions for the compactness and the intrinsic ultracontractivity of the Dirichlet Markov semigroup on D when D is an unbounded open set. When D is the horn-shaped domain, we will discuss sharp criterion for the intrinsical ultracontractivity and the sharp estimates of the ground state.

This is a joint work with Xin Chen (Shanghai Jiao Tong University) and Jian Wang (Fujian Normal University) [arXiv:1706.08031](https://arxiv.org/abs/1706.08031) [math.PR].