

# INTRINSIC ULTRA CONTRACTIVITY OF SYMMETRIC JUMP PROCESSES ON UNBOUNDED DOMAINS

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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 intrinsic 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).