INTRINSIC ULTRACONTRACTIVITY AND GROUND STATE ESTIMATES FOR FEYNMAN-KAC SEMIGROUPS OF SOME CLASS OF LEVY PROCESSES

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We derive two-sided sharp estimates of the ground state and characterize the (asymptotic) intrinsic ultracontractivity property of Feynman-Kac-type semigroups related to a class of symmetric Lévy processes subject to some regularity assumptions on the Lévy measure. These assumptions are satisfied by basic classes of Lévy processes, including many cases of interest such as rotationally invariant stable, relativistic stable, stable-like, mixed stable, jump-diffusion, and others. The talk is based on joint work with J. Lőrinczi.